HIGHER TECHNICAL INSTITUTE

ELECTRICAL ENGINEERING DEPARTMENT

DIPLOMA PROJECT

Microprocessor / Ultrasound Controlled Stepper Motor

E-878

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SUMMARY

Microprocessor / Ultrasonic Stepper Motor Control

This project is based on the control of a stepper motor using the 8031 microprocessor and an ultrasonic transmitter/receiver. Also an interface card is used for the drive of a stepper motor.

Chapter 1:

8031 Mocrocontroller :
Architecture of the microprocessor including hardware, input-output ports, external memory, serial data input-output, interrupts etc.

Chapter 2:

Ultrasonic Transmitter / Receiver.

Chapter 3:

Stepper Motors: The stepper motor choice, operation interfacing and control.

Chapter 4:

Block diagrams.

Chapter 5:

Circuit diagrams and design including control circuit, transmitter /receiver and motor interface card.

Chapter 6:

Control program: Software design and explanation, including the 8031 operational code mnemonics, use of assembly language, flowchart.

Chapter 7:

Testing: Explanation of the method used to design and contruct this project including problems arised during contruction and how they are overcomed.

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